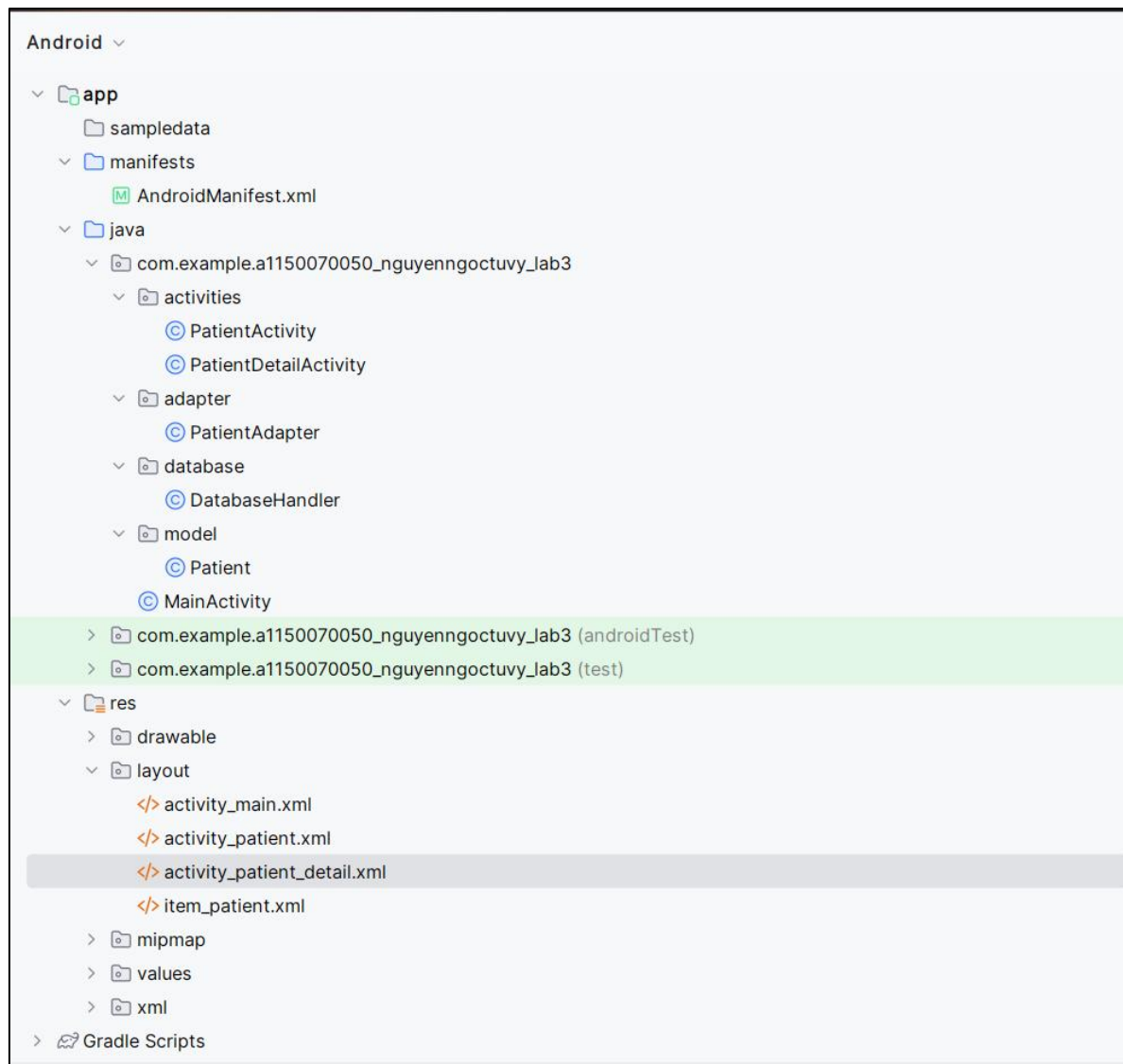


1. Nội dung triển khai

- Sử dụng SQLiteOpenHelper để tạo/upgrade CSDL.
- Bảng dữ liệu: patients(id, name, phone).
- Hiển thị danh sách bằng RecyclerView (có thể thay cho ListView của lab).
- Thêm bệnh nhân mới từ form.
- Long click vào item để xóa khỏi Database.
- Click vào item để mở màn hình chi tiết; tại đây có thể Sửa (Update).

2. Cấu trúc dự án

Cây thư mục (java + res)



```

com.example.a1150070050_nguyenngoctuvy_lab3
├── activities
│   ├── PatientActivity.java          // Danh sách + Thêm + Xóa (long
click)
│   └── PatientDetailActivity.java    // Xem & Sửa (Update) 1 bệnh
nhân
├── adapter
│   └── PatientAdapter.java          // Adapter cho RecyclerView
├── database
│   └── DatabaseHandler.java         // SQLiteOpenHelper + CRUD
├── model
│   └── Patient.java                // POJO: id, name, phone
└── MainActivity.java               // Nút mở PatientActivity
res/layout
├── activity_main.xml
├── activity_patient.xml
├── activity_patient_detail.xml
└── item_patient.xml

```

3. Thiết kế CSDL (SQLite)

Database: clinicManager

Bảng: patients

Cột dữ liệu

id	INTEGER	PRIMARY KEY	AUTOINCREMENT
name	TEXT		
phone	TEXT		

4. Các bước triển khai (tóm tắt)

- Tạo các package: activities, adapter, database, model.
- Tạo lớp Patient (model).
- Tạo DatabaseHandler kế thừa SQLiteOpenHelper, viết CRUD.
- Thiết kế layout: activity_patient, item_patient, activity_patient_detail, activity_main.
- Viết PatientAdapter (click → chi tiết; long click → xóa).
- Viết PatientActivity (thêm & hiển thị danh sách).
- Viết PatientDetailActivity (xem & cập nhật).

- Khai báo các Activity trong AndroidManifest.xml.
- Chạy thử: thêm dữ liệu, kiểm tra click/long click, cập nhật.

5. Mã nguồn chính

5.1 model/Patient.java

```
package com.example.a1150070050_nguyenngoctuvy_lab3.model;
public class Patient {
    private int id;
    private String name;
    private String phone;
    public Patient() {}
    public Patient(int id, String name, String phone) {
        this.id = id;
        this.name = name;
        this.phone = phone;
    }
    public Patient(String name, String phone) {
        this.name = name;
        this.phone = phone;
    }
    public int getId() { return id; }
    public void setId(int id) { this.id = id; }
    public String getName() { return name; }
    public void setName(String name) { this.name = name; }
    public String getPhone() { return phone; }
    public void setPhone(String phone) { this.phone = phone; }
}
```

5.2 database/DatabaseHandler.java (SQLite + CRUD)

```
package com.example.a1150070050_nguyenngoctuvy_lab3.database;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import com.example.a1150070050_nguyenngoctuvy_lab3.model.Patient;

import java.util.ArrayList;
import java.util.List;

public class DatabaseHandler extends SQLiteOpenHelper {
    private static final int DATABASE_VERSION = 1;
    private static final String DATABASE_NAME = "clinicManager";
    private static final String TABLE_PATIENTS = "patients";

    private static final String KEY_ID = "id";
    private static final String KEY_NAME = "name";
    private static final String KEY_PHONE = "phone";
```

```

public DatabaseHandler(Context context) {
    super(context, DATABASE_NAME, null, DATABASE_VERSION);
}

@Override
public void onCreate(SQLiteDatabase db) {
    String CREATE_PATIENTS_TABLE = "CREATE TABLE " + TABLE_PATIENTS
+ "("
        + KEY_ID + " INTEGER PRIMARY KEY AUTOINCREMENT,"
        + KEY_NAME + " TEXT,"
        + KEY_PHONE + " TEXT" + ")";
    db.execSQL(CREATE_PATIENTS_TABLE);
}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
    db.execSQL("DROP TABLE IF EXISTS " + TABLE_PATIENTS);
    onCreate(db);
}

// + Add
public void addPatient(Patient patient) {
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues values = new ContentValues();
    values.put(KEY_NAME, patient.getName());
    values.put(KEY_PHONE, patient.getPhone());
    db.insert(TABLE_PATIENTS, null, values);
    db.close();
}

// Get all
public List<Patient> getAllPatients() {
    List<Patient> list = new ArrayList<>();
    String selectQuery = "SELECT * FROM " + TABLE_PATIENTS;
    SQLiteDatabase db = this.getReadableDatabase();
    Cursor cursor = db.rawQuery(selectQuery, null);

    if (cursor.moveToFirst()) {
        do {
            Patient patient = new Patient();
            patient.setId(cursor.getInt(0));
            patient.setName(cursor.getString(1));
            patient.setPhone(cursor.getString(2));
            list.add(patient);
        } while (cursor.moveToNext());
    }
    cursor.close();
    return list;
}

// Update
public int updatePatient(Patient patient) {
    SQLiteDatabase db = this.getWritableDatabase();

```

```

        ContentValues values = new ContentValues();
        values.put(KEY_NAME, patient.getName());
        values.put(KEY_PHONE, patient.getPhone());
        return db.update(TABLE_PATIENTS, values, KEY_ID + "=?",
            new String[]{String.valueOf(patient.getId())});
    }

    // ✕ Delete
    public void deletePatient(int id) {
        SQLiteDatabase db = this.getWritableDatabase();
        db.delete(TABLE_PATIENTS, KEY_ID + "=?", new
String[] {String.valueOf(id)});
        db.close();
    }

    // Get by ID
    public Patient getPatient(int id) {
        SQLiteDatabase db = this.getReadableDatabase();
        Cursor cursor = db.query(TABLE_PATIENTS, new String[] {KEY_ID,
KEY_NAME, KEY_PHONE},
            KEY_ID + "=?", new String[] {String.valueOf(id)}, null,
null, null);
        if (cursor != null) cursor.moveToFirst();

        Patient patient = new Patient(
            cursor.getInt(0),
            cursor.getString(1),
            cursor.getString(2)
        );
        cursor.close();
        return patient;
    }
}

```

5.3 adapter/PatientAdapter.java

```

package com.example.a1150070050_nguyenngoctuvy_lab3.adapter;

import android.content.Context;
import android.content.Intent;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import com.example.a1150070050_nguyenngoctuvy_lab3.R;
import
com.example.a1150070050_nguyenngoctuvy_lab3.activities.PatientActivity;
import
com.example.a1150070050_nguyenngoctuvy_lab3.activities.PatientDetailAct
ivity;
import com.example.a1150070050_nguyenngoctuvy_lab3.model.Patient;

import java.util.List;

```

```

public class PatientAdapter extends
RecyclerView.Adapter<PatientAdapter.ViewHolder> {
    private Context context;
    private List<Patient> patientList;
    private OnDeleteListener deleteListener;

    public interface OnDeleteListener {
        void onDelete(int patientId);
    }

    public PatientAdapter(Context context, List<Patient> patientList,
OnDeleteListener listener) {
        this.context = context;
        this.patientList = patientList;
        this.deleteListener = listener;
    }

    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
        View view =
LayoutInflater.from(context).inflate(R.layout.item_patient, parent,
false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int
position) {
        Patient patient = patientList.get(position);
        holder.tvName.setText(patient.getName());
        holder.tvPhone.setText(patient.getPhone());

        // click: xem chi tiết
        holder.itemView.setOnClickListener(v -> {
            Intent intent = new Intent(context,
PatientDetailActivity.class);
            intent.putExtra("id", patient.getId());
            context.startActivity(intent);
        });

        // long click: xóa
        holder.itemView.setOnLongClickListener(v -> {
            if (deleteListener != null)
deleteListener.onDelete(patient.getId());
            return true;
        });
    }

    @Override
    public int getItemCount() {
        return patientList.size();
    }
}

```

```

    public static class ViewHolder extends RecyclerView.ViewHolder {
        TextView tvName, tvPhone;
        public ViewHolder(@NonNull View itemView) {
            super(itemView);
            tvName = itemView.findViewById(R.id.tvPatientName);
            tvPhone = itemView.findViewById(R.id.tvPatientPhone);
        }
    }
}

```

5.4 activities/PatientActivity.java

```

package com.example.a1150070050_nguyenngoctuvy_lab3.activities;

import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import com.example.a1150070050_nguyenngoctuvy_lab3.R;
import com.example.a1150070050_nguyenngoctuvy_lab3.adapter.PatientAdapter;
import com.example.a1150070050_nguyenngoctuvy_lab3.database.DatabaseHandler;
import com.example.a1150070050_nguyenngoctuvy_lab3.model.Patient;

import java.util.List;

public class PatientActivity extends AppCompatActivity {

    private DatabaseHandler db;
    private PatientAdapter adapter;
    private List<Patient> patientList;

    private EditText etName, etPhone;
    private Button btnAdd;
    private RecyclerView rvPatients;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_patient);

        // Ánh xạ view
        etName = findViewById(R.id.etPatientName);
        etPhone = findViewById(R.id.etPatientPhone);
        btnAdd = findViewById(R.id.btnAddPatient);
        rvPatients = findViewById(R.id.rvPatients);

        // Khởi tạo database
        db = new DatabaseHandler(this);

        // Lấy danh sách bệnh nhân
        patientList = db.getAllPatients();

        // Gắn adapter cho RecyclerView
        adapter = new PatientAdapter(this, patientList,

```

```

this::deletePatient);
    rvPatients.setLayoutManager(new LinearLayoutManager(this));
    rvPatients.setAdapter(adapter);

    // Xử lý nút thêm bệnh nhân
    btnAdd.setOnClickListener(v -> addNewPatient());
}

private void addNewPatient() {
    String name = etName.getText().toString().trim();
    String phone = etPhone.getText().toString().trim();

    if (!name.isEmpty() && !phone.isEmpty()) {
        db.addPatient(new Patient(name, phone));
        refreshList();
        etName.setText("");
        etPhone.setText("");
    }
}

private void refreshList() {
    patientList.clear();
    patientList.addAll(db.getAllPatients());
    adapter.notifyDataSetChanged();
}

public void deletePatient(int id) {
    db.deletePatient(id);
    refreshList();
}

```

5.5 activities/PatientDetailActivity.java (View + Update)

```

package com.example.a1150070050_nguyenngoctuvy_lab3.activities;

import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import com.example.a1150070050_nguyenngoctuvy_lab3.R;
import com.example.a1150070050_nguyenngoctuvy_lab3.database.DatabaseHandler;
import com.example.a1150070050_nguyenngoctuvy_lab3.model.Patient;

public class PatientDetailActivity extends AppCompatActivity {

    private EditText etName, etPhone;
    private Button btnUpdate;
    private DatabaseHandler db;
    private int patientId;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_patient_detail);

        etName = findViewById(R.id.etDetailName);
        etPhone = findViewById(R.id.etDetailPhone);
    }
}

```



```

        btnUpdate = findViewById(R.id.btnUpdatePatient);

        db = new DatabaseHandler(this);

        // Lấy ID được truyền từ Adapter
        patientId = getIntent().getIntentExtra("id", -1);

        if (patientId != -1) {
            Patient patient = db.getPatient(patientId);
            if (patient != null) {
                etName.setText(patient.getName());
                etPhone.setText(patient.getPhone());
            }
        }

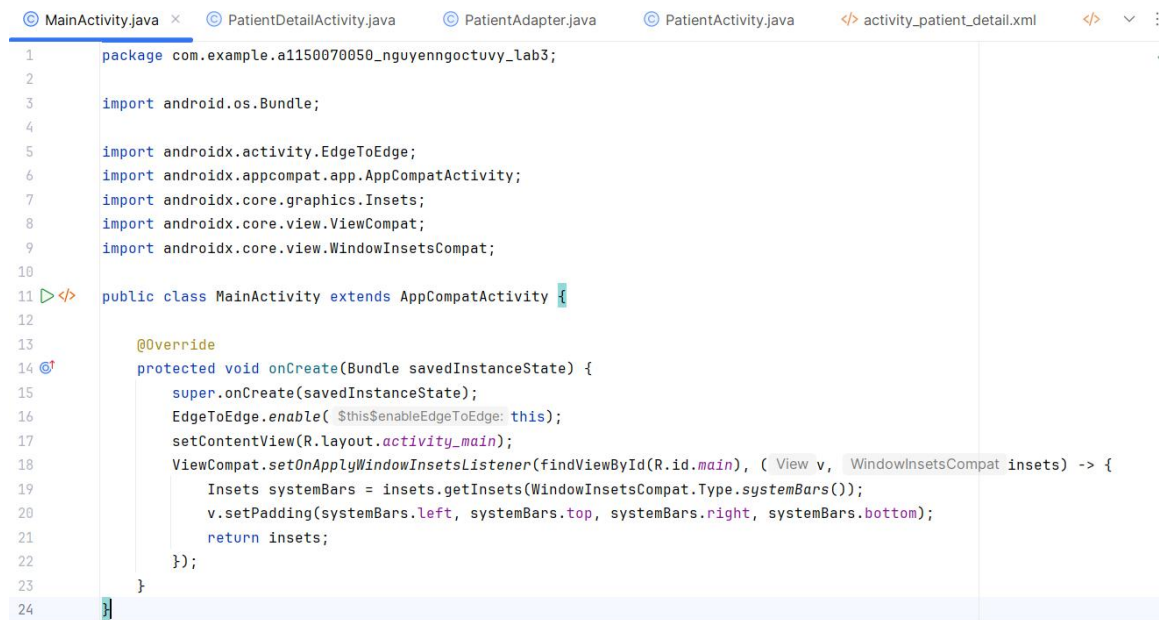
        // Xử lý nút cập nhật
        btnUpdate.setOnClickListener(v -> {
            String newName = etName.getText().toString().trim();
            String newPhone = etPhone.getText().toString().trim();

            if (!newName.isEmpty() && !newPhone.isEmpty()) {
                Patient updatedPatient = new Patient(patientId, newName,
newPhone);

                db.updatePatient(updatedPatient);
                Toast.makeText(this, "Cập nhật thành công!",
Toast.LENGTH_SHORT).show();
                finish(); // quay lại màn hình trước
            } else {
                Toast.makeText(this, "Vui lòng nhập đầy đủ thông tin",
Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

5.6 MainActivity.java (mở màn quản lý bệnh nhân)



```

1 package com.example.a1150070050_nguyennngoctuyvy_lab3;
2
3 import android.os.Bundle;
4
5 import androidx.activity.EdgeToEdge;
6 import androidx.appcompat.app.AppCompatActivity;
7 import androidx.core.graphics.Insets;
8 import androidx.core.view.ViewCompat;
9 import androidx.core.view.WindowInsetsCompat;
10
11 public class MainActivity extends AppCompatActivity {
12
13     @Override
14     protected void onCreate(Bundle savedInstanceState) {
15         super.onCreate(savedInstanceState);
16         EdgeToEdge.enable(this);
17         setContentView(R.layout.activity_main);
18         ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, WindowInsetsCompat insets) -> {
19             Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
20             v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
21             return insets;
22         });
23     }
24 }

```

6. Layout XML

6.1 res/layout/activity_main.xml



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     android:id="@+id/main"
4     android:orientation="vertical"
5     android:gravity="center"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent">
8
9     <Button
10         android:id="@+id/btnManagePatients"
11         android:text="Quản lý bệnh nhân"
12         android:layout_width="wrap_content"
13         android:layout_height="wrap_content"/>
14 </LinearLayout>
15
```

6.2 res/layout/activity_patient.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:padding="16dp"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <EditText
        android:id="@+id/etPatientName"
        android:hint="Họ tên bệnh nhân"
        android:layout_width="match_parent"
        android:layout_height="56dp"
        android:padding="12dp"
        android:inputType="textPersonName" />

    <EditText
        android:id="@+id/etPatientPhone"
        android:hint="Số điện thoại"
        android:layout_width="match_parent"
        android:layout_height="56dp"
        android:padding="12dp"
        android:inputType="phone" />

    <Button
        android:id="@+id/btnAddPatient"
        android:text="Thêm bệnh nhân"
        android:layout_width="match_parent"
        android:layout_height="56dp"
        android:padding="12dp" />

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/rvPatients">
```

```

        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1" />
</LinearLayout>

```

6.3 res/layout/item_patient.xml

```

PatientActivity.java  activity_patient_detail.xml  activity_main.xml  activity_patient.xml  item_patient.xml x
1  <?xml version="1.0" encoding="utf-8"?>
2  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      android:orientation="vertical"
4      android:padding="12dp"
5      android:layout_width="match_parent"
6      android:layout_height="wrap_content">
7
8      <TextView
9          android:id="@+id/tvPatientName"
10         android:layout_width="match_parent"
11         android:layout_height="wrap_content"
12         android:text="Tên bệnh nhân"
13         android:textStyle="bold"
14         android:textSize="16sp" />
15
16         <TextView
17             android:id="@+id/tvPatientPhone"
18             android:layout_width="match_parent"
19             android:layout_height="wrap_content"
20             android:text="Số điện thoại"
21             android:textSize="14sp" />
22     </LinearLayout>
23

```

6.4 res/layout/activity_patient_detail.xml

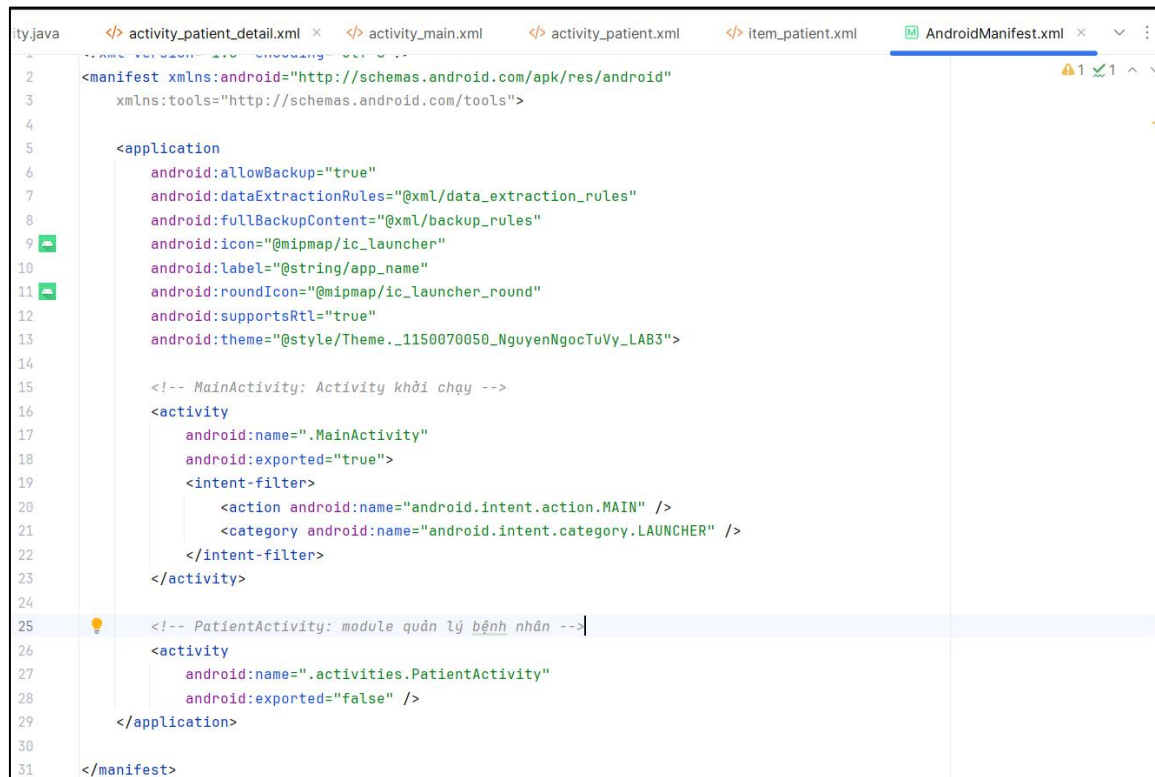
```

tDetailActivity.java  PatientAdapter.java  PatientActivity.java  activity_patient_detail.xml x  activity_main.xml  10 1
1  <?xml version="1.0" encoding="utf-8"?>
2  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      android:orientation="vertical"
4      android:padding="16dp"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent">
7
8      <EditText
9          android:id="@+id/etDetailName"
10         android:hint="Tên bệnh nhân"
11         android:layout_width="match_parent"
12         android:layout_height="56dp"
13         android:inputType="textPersonName"
14         android:padding="12dp" />
15
16         <EditText
17             android:id="@+id/etDetailPhone"
18             android:hint="Số điện thoại"
19             android:layout_width="match_parent"
20             android:layout_height="56dp"
21             android:inputType="phone"
22             android:padding="12dp" />
23
24         <Button
25             android:id="@+id/btnUpdatePatient"
26             android:text="Cập nhật"
27             android:layout_width="match_parent"
28             android:layout_height="56dp"
29             android:padding="12dp" />
30
31     </LinearLayout>

```

7. AndroidManifest.xml (khai báo Activity)

Khai báo trong thẻ <application>



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:tools="http://schemas.android.com/tools">
4
5     <application
6         android:allowBackup="true"
7         android:dataExtractionRules="@xml/data_extraction_rules"
8         android:fullBackupContent="@xml/backup_rules"
9         android:icon="@mipmap/ic_launcher"
10        android:label="@string/app_name"
11        android:roundIcon="@mipmap/ic_launcher_round"
12        android:supportsRtl="true"
13        android:theme="@style/Theme._1150070050_NguyenNgocTuVy_LAB3">
14
15        <!-- MainActivity: Activity khởi chạy -->
16        <activity
17            android:name=".MainActivity"
18            android:exported="true">
19            <intent-filter>
20                <action android:name="android.intent.action.MAIN" />
21                <category android:name="android.intent.category.LAUNCHER" />
22            </intent-filter>
23        </activity>
24
25        <!-- PatientActivity: module quản lý bệnh nhân -->
26        <activity
27            android:name=".activities.PatientActivity"
28            android:exported="false" />
29    </application>
30
31 </manifest>
```

```
<activity
    android:name=".MainActivity"
    android:exported="true">
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
```

```
<activity android:name=".activities.PatientActivity" />
<activity android:name=".activities.PatientDetailActivity" />
```